BORE HOLE	DEPTH MTS	FOOTING WIDTH 1.0 T/SQ.MT	1.5 T/SQ.MT	2.0 T/SQ.MT
BH-1	1.50	28.08	24.25	22.45
BH-1	2.00	34.83	30.12	27.91
BH-1	2.50	41.57	36.00	33.37
BH-1	3.00	48.32	41.87	38.84

BORE HOLE	DEPTH MTS	FOOTING WIDTH 1.0 T/SQ.MT	1.5 T/SQ.MT	2.0 T/SQ.MT
BH-2	1.50	35.54	30.62	28.31
BH-2	2.00	39.80	34.37	31.82
BH-2	2.50	44.06	38.12	35.33
BH-2	3.00	48.32	41.87	38.84

BORE HOLE	DEPTH MTS	FOOTING WIDTH 1.0 T/SQ.MT	1.5 T/SQ.MT	2.0 T/SQ.MT
BH-3	1.50	22.08	19.13	17.74
BH-3	2.00	30.80	26.68	24.74
BH-3	2.50	39.51	34.23	31.74
BH-3	3.00	48.23	41.77	38.74

Scanned by TapScanner

EXECUTIVE ENGINEER BBMP

2 ND CROSS VEERABADRASWAMY TEMPLE ,NARASAIHNA AGRAHARA YELAHANKA BANGALORE

IS:1892 SUBSURFACE INVESTIGATION FOR FOUNDATIONS — JAMES :-20220609

Table-A -Field Bore Log — BORE HOLE -1 — Water table Below EGL - --NILL — Bore dia :- 150mmØ

		SOIL DESCRIPTION		DEPTH in m	SPT 'N' 00-20	20-40	40-60	60-80	80-100	N	15 cms	30 cms	45 cms	SAMPLE	
	3.0	COARSE GRAIN	GRAVELLY SANDY CLAYEY SILT	0.0		Δ				26	10	11	15	SPT	
				1.5			Δ			50	19	21	29	SPT	
				3.0											

Scanned by TapScanner

EXECUTIVE ENGINEER BBMP

2 ND CROSS VEERABADRASWAMY TEMPLE ,NARASAIHNA AGRAHARA YELAHANKA BANGALORE

IS:1892 SUBSURFACE INVESTIGATION FOR FOUNDATIONS — JAMES :-20220609

Table-A –Field Bore Log — **BORE HOLE -2** — **Water table Below EGL – --NILL** — **Bore dia :- 150mmØ**

SOIL DESCRIPTION				DEPTH M	SPT 'N' 00–20	20–40	40–60	60–80	80–100	½	15 cms	30 cms	45 cms	SAMPLE	
	3.0	COARSE GRAIN	GRAVELLY SANDY CLAYEY SILT	0.0		Δ				36	14	15	21	SPT	
				1.5			Δ			50	19	21	29	SPT	
				3.0											

Scanned by TapScanner

EXECUTIVE ENGINEER BBMP

2 ND CROSS VEERABADRASWAMY TEMPLE NARASAIHNA AGRAHARA YELAHANKA BANGALORE

IS:1892 SUBSURFACE INVESTIGATION FOR FOUNDATIONS — JAMES :-20220409

Table-A –Field Bore Log — BORE HOLE -3 — Water table Below EGL – --NILL — Bore dia :- 150mmØ

SOIL DESCRIPTION				DEPTH	SPT 'N'						15 cms	30 cms	45 cms	SAMPLE	
3.0	COARSE GRAIN	GRAVELLY SANDY CLAYEY SILT		0.0	Δ					18	7	8	10	SPT	
				1.5			Δ			50	19	21	29	SPT	
				3.0											

Scanned by TapScanner

EXECUTIVE ENGINEER BBMP

2 ND CROSS VEERABADRASWAMY TEMPLE ,NARASAIHNA AGRAHARA YELAHANKA BANGALORE

IS:1892 SUBSURFACE INVESTIGATION FOR FOUNDATIONS — JAMES :-20220609

TABLE-D

Bore Hole No	Depth mts	Depth mts	Gravel %	Sand %	Silt & clay %	Liquid Limit %	Plastic Limit. %	Plasticity index %
BH-1	0.00	1.50	13.00	54.00	33.00	22.00	14.67	7.33
BH-1	1.50	3.00	0.00	76.00	24.00	16.00	10.67	5.33
BH-2	0.00	1.50	14.00	55.00	31.00	20.67	13.78	6.89
BH-2	1.50	3.00	0.00	72.00	28.00	18.67	12.44	6.22
BH-3	0.00	1.50	12.00	51.00	37.00	24.67	16.44	8.22
BH-3	1.50	3.00	0.00	74.00	26.00	17.33	11.56	5.78

Scanned by TapScanner

Scanned by TapScanner

	EXECUTIVE ENGINEER BBMP
	2 ND CROSS VEERABADRASWAMY TEMPLE ,NARASAIHNA AGRAHARA YELAHANKA BANGALORE
	IS:1892 SUBSURFACE INVESTIGATION FOR FOUNDATIONS — JAMES :-20220609

TABLE----B				Bulk	moisture	Dry	over	Specific	Voids	Shear Strength	
Bore	Depth	Depth	SPT	content	content	density	burder Pr.	Gravity	Ratio	Cohesion	Angle
No	m	m	N'	kN/m^3	%	kN/m^3	kN/m^2	G	.e	kN/m^2	degree
BH-1	0.00	1.50	20.5	16.05	9.42	14.67	22.00	2.64	0.566	47.00	21.15
BH-1	1.50	3.00	32.5	17.25	10.12	15.66	46.99	2.65	0.604		
BH-2	0.00	1.50	25.5	16.55	9.32	15.14	22.71	2.64	0.585		
BH-2	1.50	3.00	32.5	17.25	10.12	15.66	46.99	2.65	0.604	0.00	34.00
BH-3	0.00	1.50	16.5	15.65	10.794	14.13	21.19	2.644	0.545	46.00	20.00
BH-3	1.50	3.00	32.5	17.25	12.394	15.35	46.04	2.633	0.594		

TYPICAL CALCULATION OF BEARING CAPACITY OF SOIL

CALCULATION BASED ON SPT "N" VALUES FOR A SQUARE FOOTING FOR 25MM SETTLEMENT

Safe Bearing Capacity of Soil kN/m²

$q_a = \frac{N}{0.08}\left(\frac{B+0.3}{B}\right)^2 C_w$ kN/m²

Bore Hole No.

depth m

Value N

Density of soil kN/m³

Effective over burden pressure = kN/m²

Ground Level= m

Foundation Level= m

Depth of Footing= m

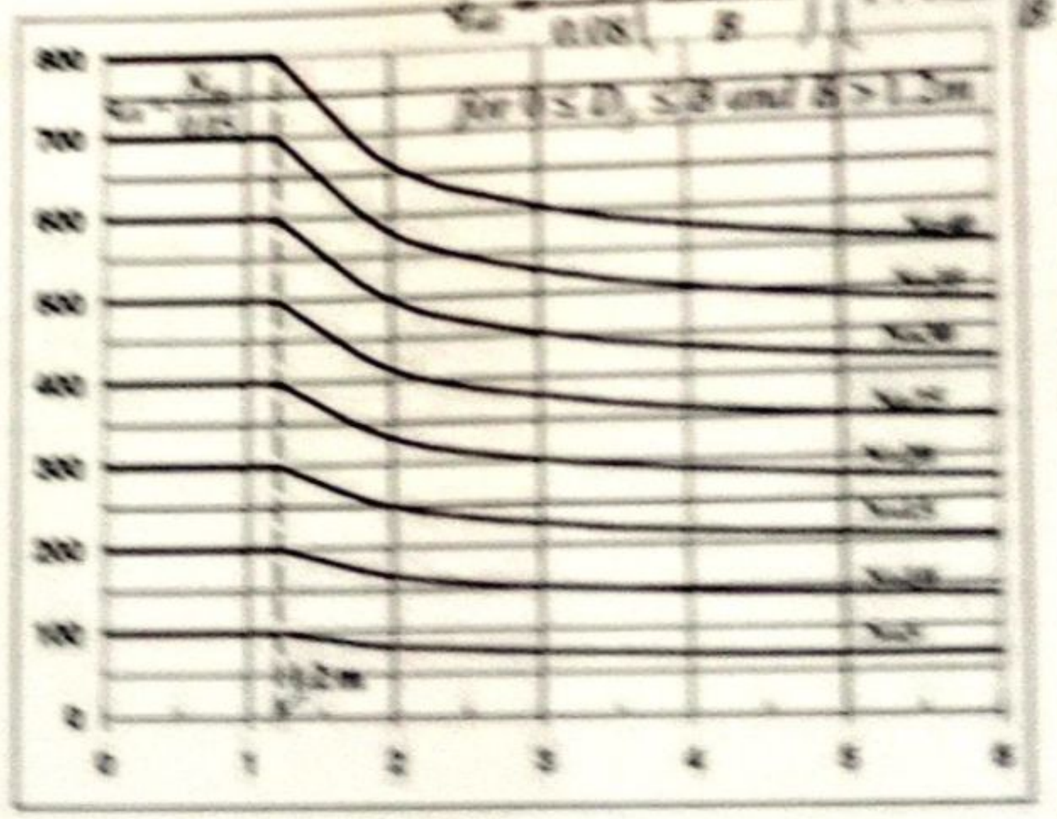
Depth of Water Table Below FGL = m

width of footing m

Reduction factor for water table 1

	BORE HOLE	DEPTH	SPT	DRY DENSITY	CORRECTED SPT	FOOTING WIDTH	Over Burden Pressure	S B C
	No.	METER	N	KN/M³	"N"	METER	KN/M²	T/M²
	BH-3	1.5	18	14.1	16.5	1.0	21.19	22.08
	BH-3	1.5	18	14.1	16.5	1.5	21.19	19.13
	BH-3	1.5	18	14.1	16.5	2.0	21.19	17.74
	BH-3	1.5	18	14.1	16.5			

$$q_a = \frac{N_{cor}}{0.08}\left(\frac{B+0.3}{B}\right)^2\left(1+0.33\frac{D_f}{B}\right)$$



B, m

Scanned by TapScanner

Typical Calculation based on shear for a square footing of 1.0m x 1.0m. For 25 mm settlement.

$$q_f = cN_c s_c d_c i_c + qN_q s_q d_q i_q + 0.5\gamma BN_\gamma s_\gamma d_\gamma i_\gamma$$

BH	Bore Hole	No.
Ø	Value=	Degrees
2/3 Ø	Value=	Degrees
C	cohesion of the soil =	kN/m²
γ_1	Density of soil=	kN/m³
q	Effective over burden pressure =	kN/m²
D_f	Depth Of Footing=	m
D_w	Depth Of Water Table	m
Sc Sq Sγ	Shape factor	
Dc Dq Dγ	Depth factor	
Nc Nq Nγ	Bearing capacity factor	

BORE HOLE	DEPTH	DRY DENSITY	FOOTING WIDTH	COHESION	ANGLE	OBP
	METER	KN/M^3	METER	KN/M^2	Ø	KN/M^2
BH-3	1.5	14.13	1	46.00	20.0	21.20

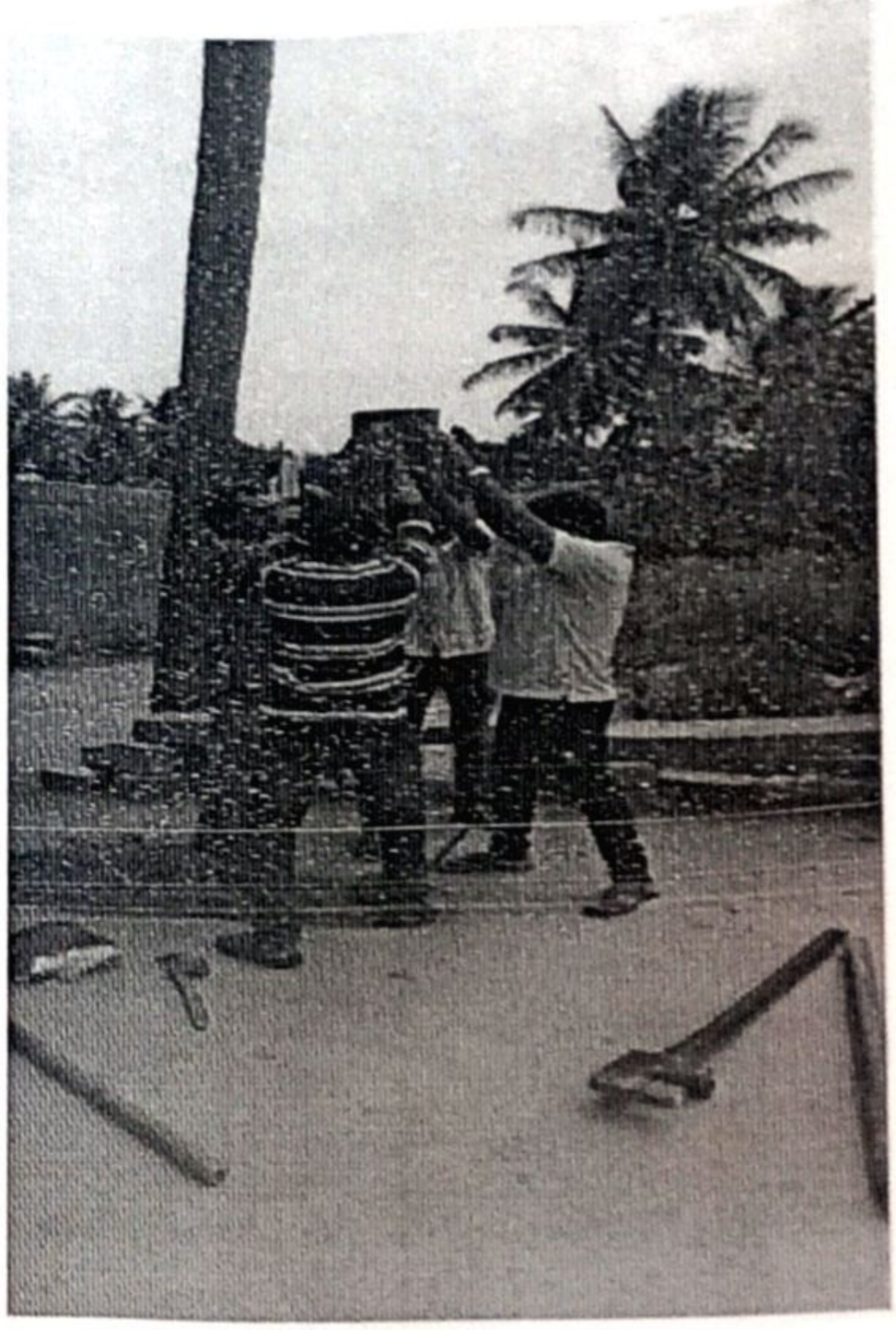
Bearing capacity factors: - (Ref.Table-1, page-8 of IS: 6403-1981)

Ø°	Nc	Nq	Nγ	Sc	Sq	Sγ	Dc	Dq
13	9.928	3.352	2.078	1.3	1.2	0.8	1	1

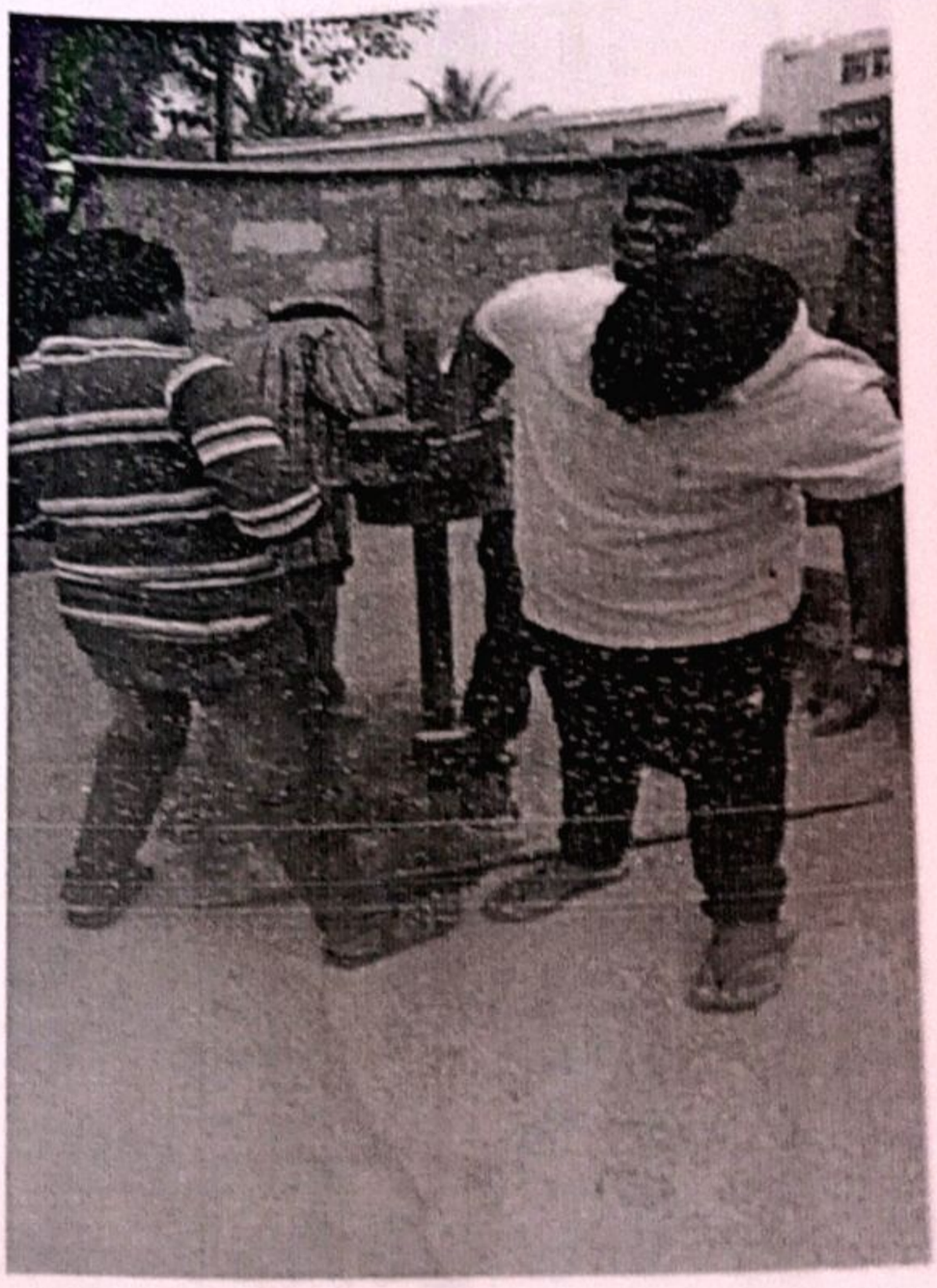
Substituting in the formula	$q_f = cN_c s_c d_c i_c + qN_q s_q d_q i_q + 0.5\gamma BN_\gamma s_\gamma d_\gamma i_\gamma$

Ultimate Bearing Capacity	Net Bearing Capacity	Bearing Capacity Factor Of Safety 3 SBC-shear	Safe Bearing Capacity SBC-shear	Safe Bearing Capacity SBC-shear
kN/m^2	kN/m^2	kN/m^2	kN/m^2	T/M^2
626	605	202	223	22.27

Scanned by TapScanner



Scanned by TapScanner

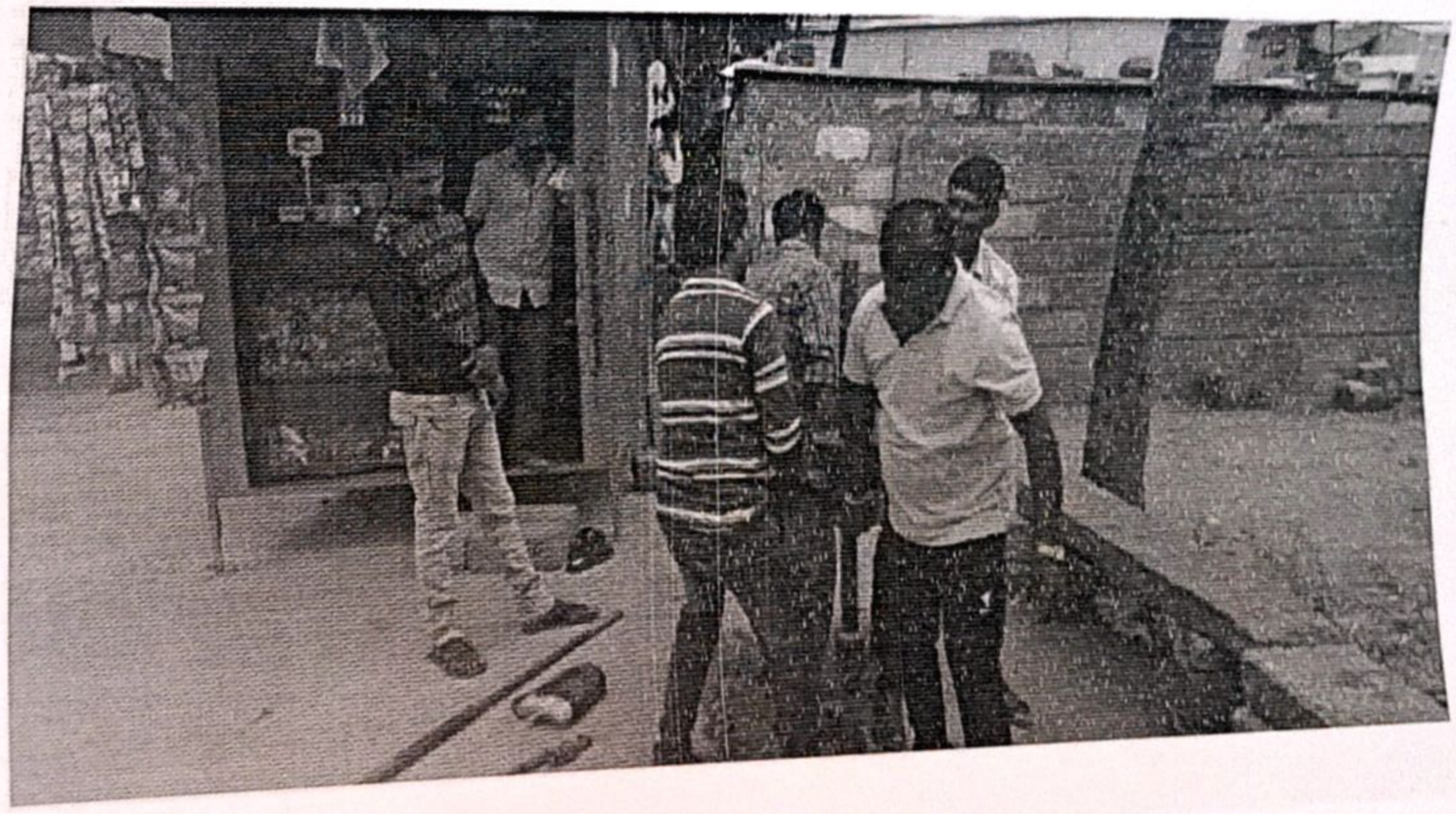


Scanned by TapScanner

EXECUTIVE ENGINEER BBMP

2 ND CROSS VEERABADRASWAMY TEMPLE ,NARASAIHNA AGRAHARA YELAHANKA BANGALORE

IS:1892 SUBSURFACE INVESTIGATION FOR FOUNDATIONS | JAMES :-20220609

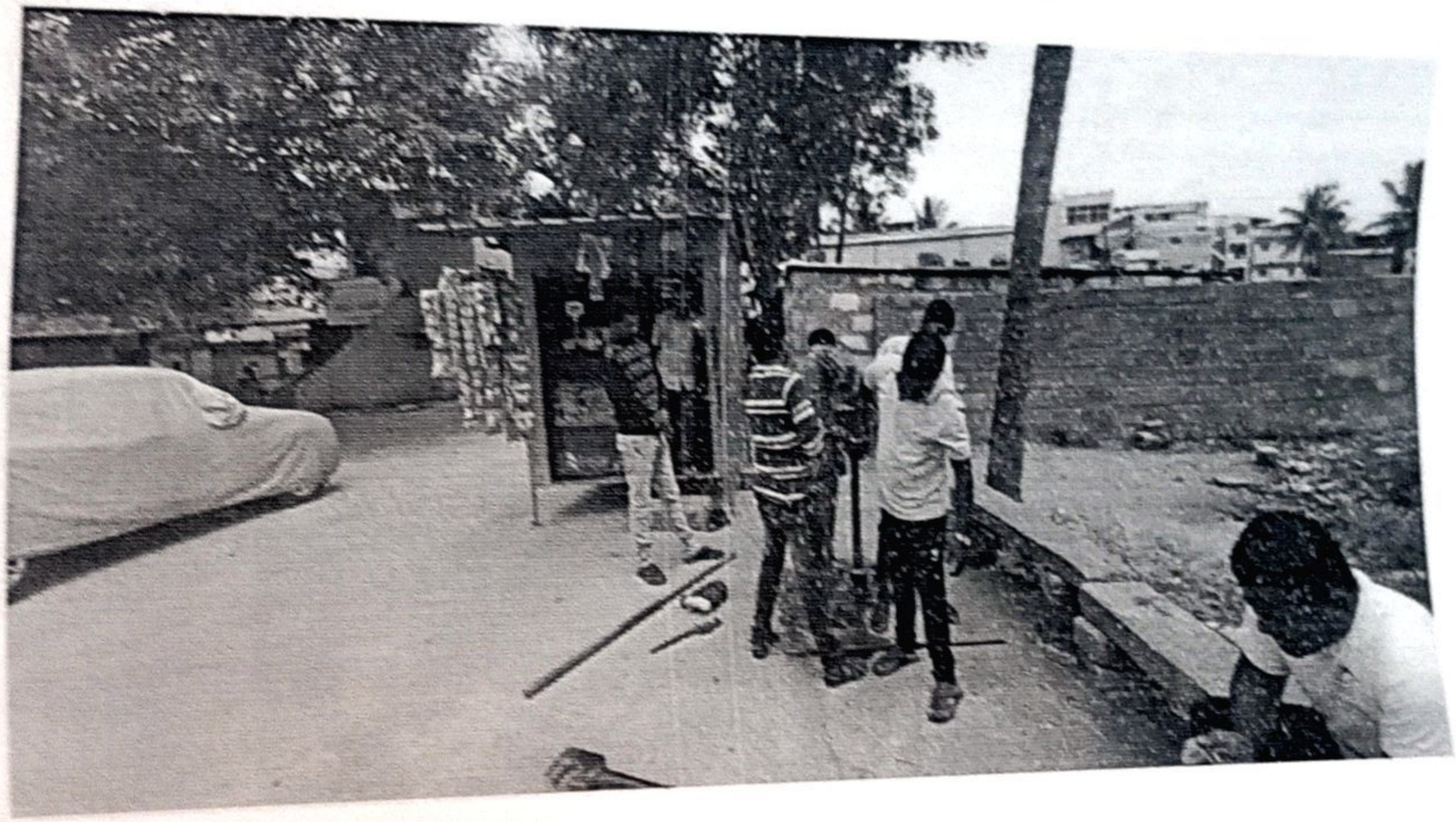


Scanned by TapScanner

EXECUTIVE ENGINEER BBMP

2 ND CROSS VEERABADRASWAMY TEMPLE ,NARASAIHNA AGRAHARA YELAHANKA BANGALORE

IS:1892 SUBSURFACE INVESTIGATION FOR FOUNDATIONS JAMES :-20220609



Scanned by TapScanner

	EXECUTIVE ENGINEER BBMP
	2 ND CROSS VEERABADRASWAMY TEMPLE ,NARASAIHNA AGRAHARA YELAHANKA BANGALORE
	IS:1892 SUBSURFACE INVESTIGATION FOR FOUNDATIONS — JAMES :-20220609

Scanned by TapScanner